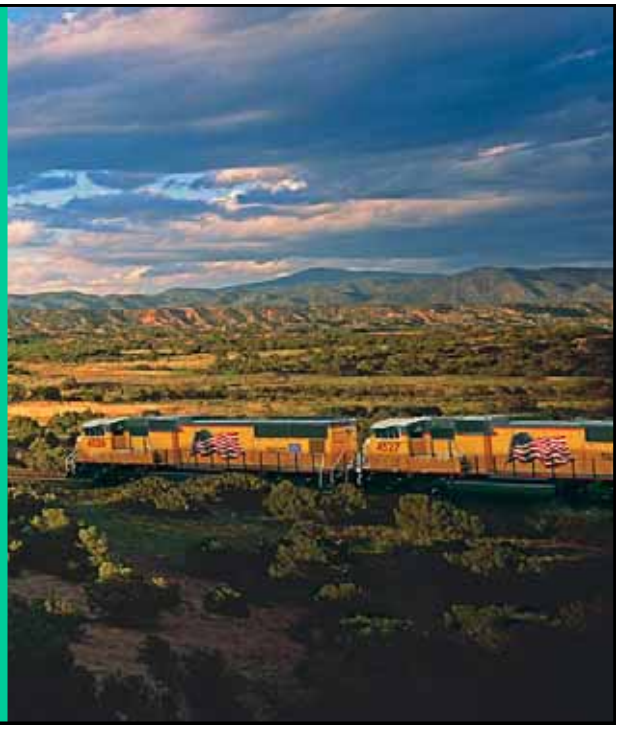
SCAG's Goods Movement Task Force

Lupe C. Valdez
Director Public Policy and Community Affairs

Union Pacific Railroad

March 15, 2006



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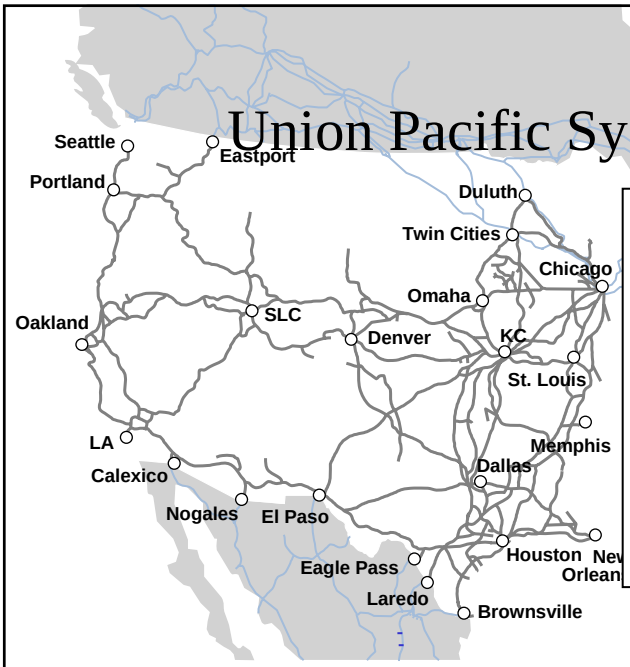
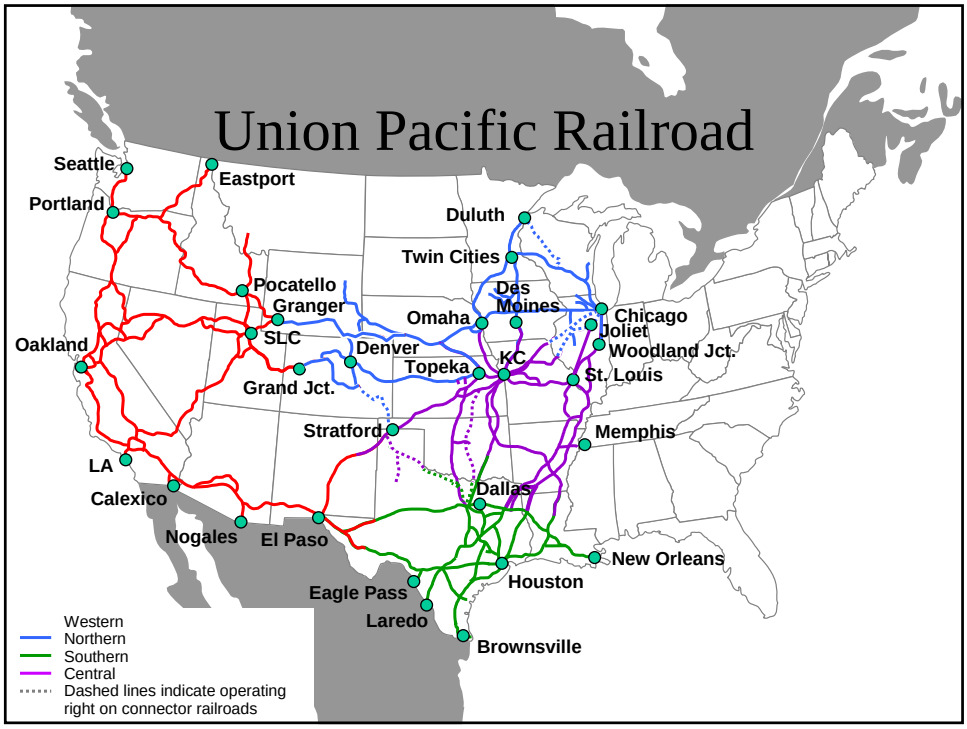
Union Pacific System



Fast Facts

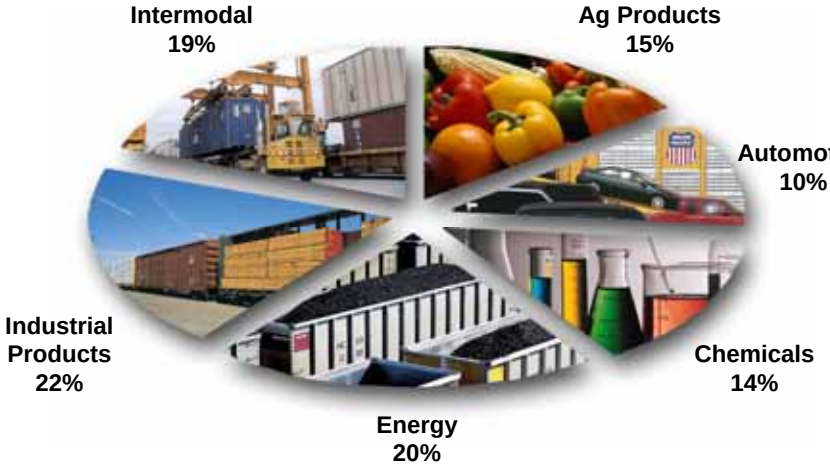
• Commodity Revenue	$13 B
• Miles of Track	32,400 in 23 States
• Employees	50,000
• Annual Payroll	$3.6 B
• Customers	25,000
• Locomotives	8,000
• Freight Cars	107,000


Union Pacific Railroad
Seattle
Eastport
Portland
Duluth
Twin Cities
Pocatello
Granger
Des Moines
Omaha
Chicago
Joliet
SLC
Oakland
Denver
Woodland Jct.
KC
Topeka
St. Louis
Grand Jct.
Stratford
Memphis
LA
Dallas
Calexico
Nogales
El Paso
New Orleans
Houston
Eagle Pass
Laredo
Brownsville
Western
Northern
Southern
Central
Dashed lines indicate operating right on connector railroads


UP Railroad Service Units & Regions

3,455	Miles of Track
5,859	Employees
$348 M	Annual Payroll
$125.8 M	Purchases Made

2005 Business Mix



Efficiencies of Rail

	 vs. 
Capacity	1 double stack train equals up to 280 trucks
Fuel Efficiency	Trains are 2-4 times more fuel efficient than trucks on a ton-mile basis
NOx Emissions	Trains are 2-3 times cleaner than trucks on a ton-mile basis

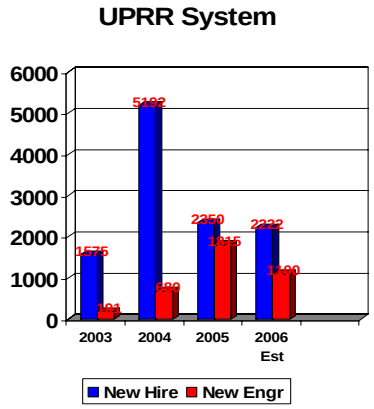
Critical Resources

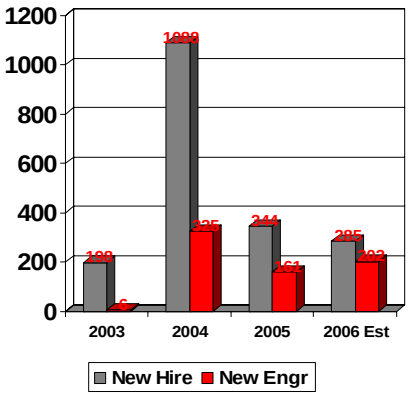
Improved Recoverability

Crews	2004	2005	2006*	
Trainmen Grads	4,979	2,072	2,500	
Engineer Grads	680	1,700	1,100	
Locomotives	**2004**	**2005**	**2006***	
New Freight	393	317	200	
Freight Cars	**2004**	**2005**	**2006***	
New or Leased Cars	5,000	4,200	2,700	

*** Estimates**

Hiring/Promotions

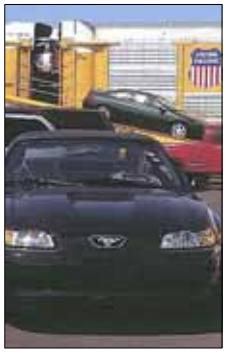




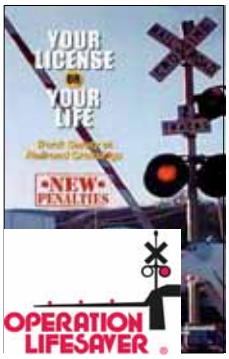
Safety & Security

Three Aspects

Employee



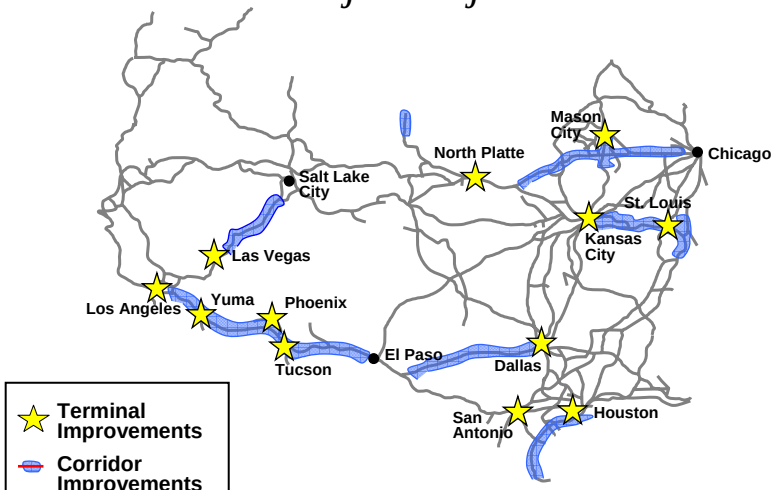
Customer



Public

2006 Capital Plan

Major Projects



2006 Spend = $2.7+ Billion

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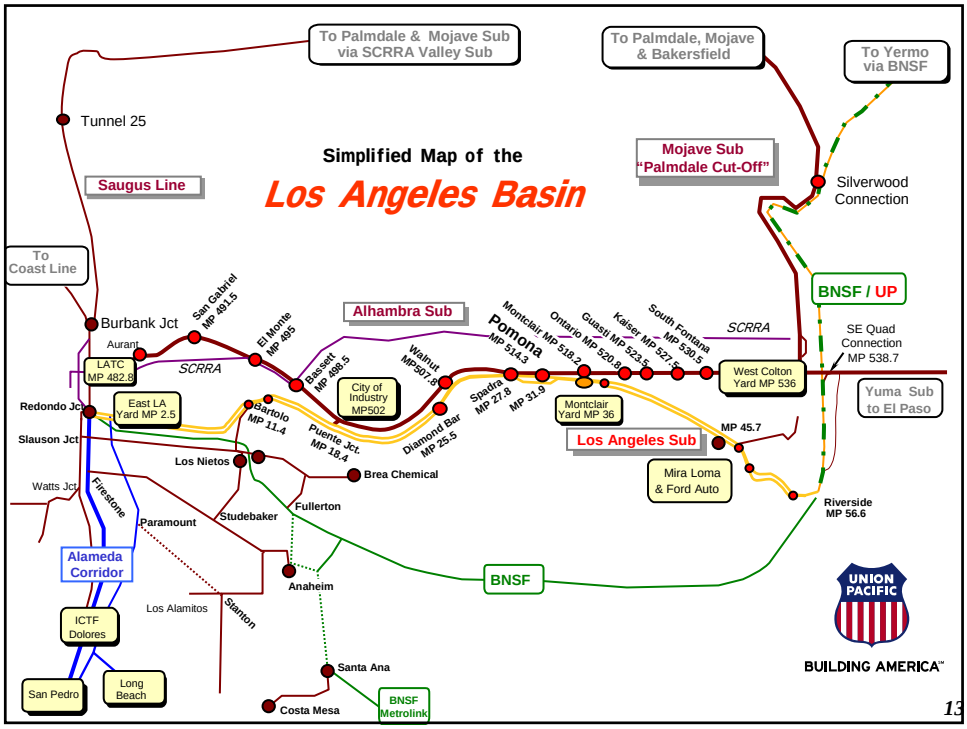
Los Angeles Basin Capacity Overview


To Palmdale & Mojave Sub via SCRRA Valley Sub
To Palmdale, Mojave & Bakersfield
To Yermo via BNSF
Tunnel 25
Simplified Map of the
Los Angeles Basin
Saugus Line
Mojave Sub "Palmdale Cut-Off"
Silverwood Connection
To Coast Line
BNSF / UP
Burbank Jct
Aurant
LATC MP 482.8
SCRRA
San Gabriel MP 491.5
El Monte MP 495
Alhambra Sub
Bassett MP 498.5
Walnut MP507.8
City of Industry MP502
Pomona MP 514.3
Montclair MP 518.2
Ontario MP 520.8
Guasti MP 523.5
Kaiser MP 527.5
South Fontana MP 530.5
West Colton Yard MP 536
SE Quad Connection MP 538.7
Yuma Sub to El Paso
Redondo Jct
East LA Yard MP 2.5
Bartolo MP 11.4
Puente Jct. MP 18.4
Diamond Bar MP 25.5
Spadra MP 27.8
MP 31.9
Montclair Yard MP 36
Slauson Jct
Los Angeles Sub
MP 45.7
Los Nietos
Brea Chemical
Mira Loma & Ford Auto
Watts Jct
Firestone
Paramount
Studebaker
Fullerton
Riverside MP 56.6
Alameda Corridor
Anaheim
BNSF
Los Alamitos
Stanton
ICTF Dolores
Santa Ana
San Pedro
Long Beach
Costa Mesa
BNSF Metrolink
UNION PACIFIC
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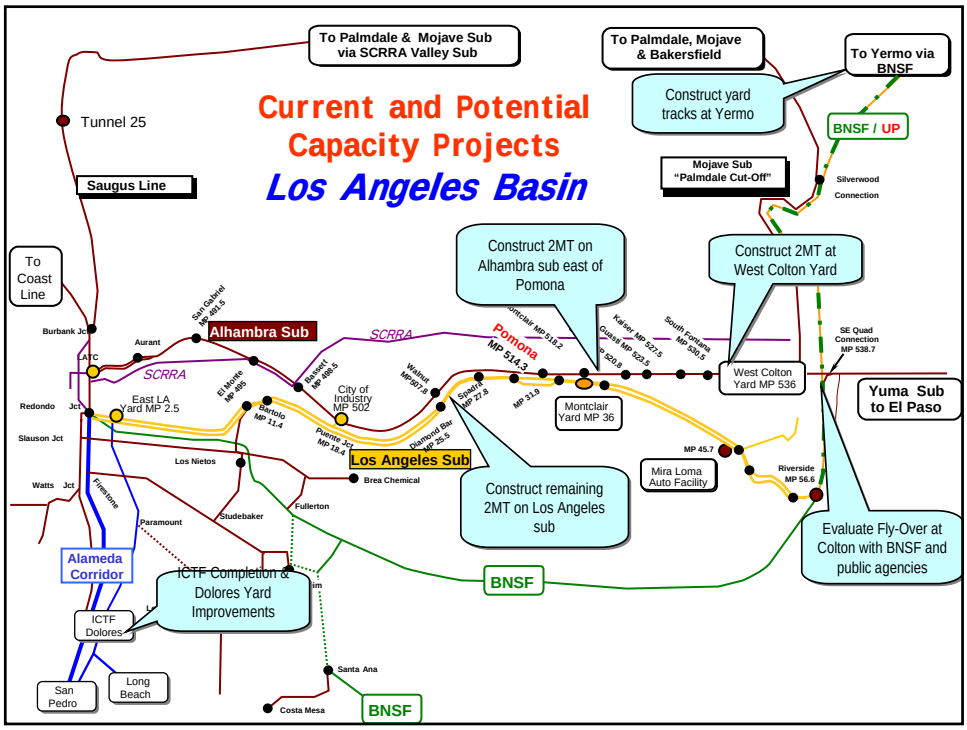
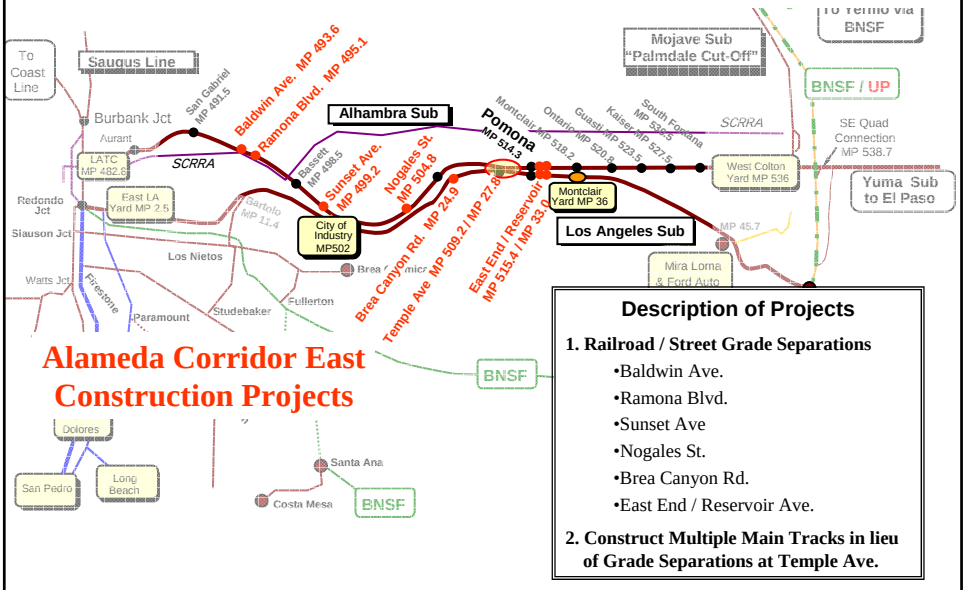

To Palmdale & Mojave Sub via SCRRA Valley Sub
To Palmdale, Mojave & Bakersfield
To Yermo via BNSF
Current and Potential Capacity Projects
Los Angeles Basin
Construct yard tracks at Yermo
Tunnel 25
Saugus Line
BNSF / UP
Mojave Sub "Palmdale Cut-Off"
Silverwood Connection
Construct 2MT on Alhambra sub east of Pomona
Construct 2MT at West Colton Yard
To Coast Line
Alhambra Sub
SCRRA
Pomona MP 514.3
West Colton Yard MP 536
Yuma Sub to El Paso
Montclair Yard MP 36
Los Angeles Sub
Construct remaining 2MT on Los Angeles sub
Mira Loma Auto Facility
Evaluate Fly-Over at Colton with BNSF and public agencies
Alameda Corridor
ICTF Completion & Dolores Yard Improvements
BNSF
ICTF Dolores
San Pedro
Long Beach
Santa Ana
Costa Mesa

Public / Private Partnership

Alameda Corridor East (ACE)

Funded and Proposed Grade Separation Projects



Alameda Corridor East Construction Projects

Description of Projects

1. Railroad / Street Grade Separations

- •Baldwin Ave.
- •Ramona Blvd.
- •Sunset Ave
- •Nogales St.
- •Brea Canyon Rd.
- •East End / Reservoir Ave.

2. Construct Multiple Main Tracks in lieu of Grade Separations at Temple Ave.

Environmental

- Investment in low emissions and fuel efficiency
  - Over 2,345 new locomotive purchases since 2000
    - Meet or exceed USEPA standards Tier 0,1,2
  - Over 1,346 pre-2000 locomotives rebuilt
    - Emissions reduction modifications
  - Over 1,300 older locomotives retired
  - Engine idling reduction technology
- Low Horsepower Innovation
  - Green Goats - Diesel/Battery Hybrids
  - Gen-Set Switchers
  - Engine idling reduction technology

New Switch Locomotive Technology: Gen Set

"Gen Set" heavy-duty switcher

Powered by (2) EPA *off-road Tier 3* diesel gen sets

Projected to exceed EPA locomotive Tier 2 requirements

New Switch Locomotive Technology: Hybrids

2000 peak horsepower from batteries

"Hybrid" light-medium duty switcher

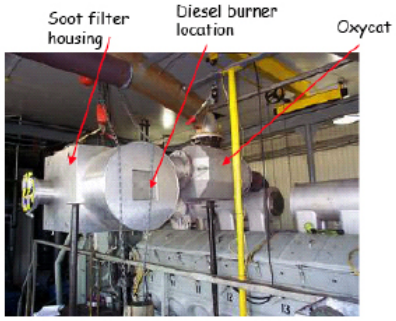
Batteries recharged by 290 HP EPA *off-road Tier 2* diesel gen set

Significantly exceeds EPA locomotive Tier 2 requirements

Liquefied Natural Gas Switcher Locomotive

1200 sustainable horsepower, spark ignited

Diesel Particulate Filter (DPF) R&D



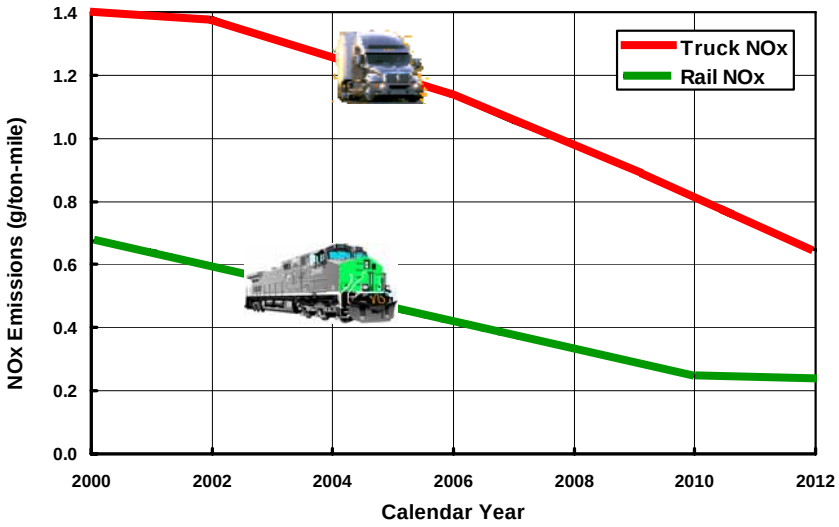
- Two UP 1500 horsepower switchers will be equipped with DPF technology in 4Q '05
- Units will be tested for maintainability, durability and performance in California

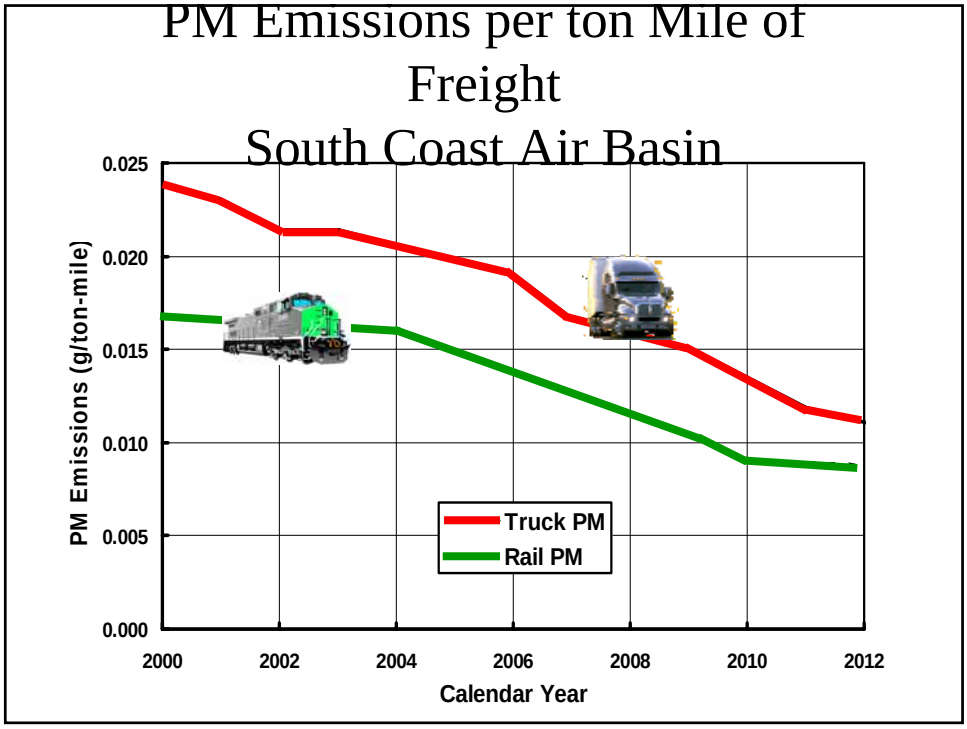
- Railroads have been co-funding 5-year R&D project investigating performance, durability and applicability of DPF to older switching locomotives
- R&D work being performed by Southwest Research Institute ("SwRI") through Association of American Railroads
- There is no technical precedent for this work

Comparative Markets: Locomotives & Trucks

- Diesel engine technology is driven by the US over-the-road truck market
  - 211 Class 8 trucks have been sold for every locomotive since 1972
- Engine technologies "cascade down" through normal marketplace forces
  - Automotive→ Truck→ Locomotive, Stationary, and Marine
  - Example: Electronic Fuel Injection
    - Introduced into the auto market in *early* 1980's
    - Entered truck market in *late* 1980's
    - Entered locomotive market in 1994
  - Engine technologies cannot be quickly and simply "scaled up"

NOx Emissions per ton Mile of Freight South Coast Air Basin




PM Emissions per ton Mile of Freight
South Coast Air Basin
PM Emissions (g/ton-mile)
0.025
0.020
0.015
0.010
0.005
0.000
2000
2002
2004
2006
2008
2010
2012
Calendar Year
Truck PM
Rail PM